Hazardous Waste Definitions

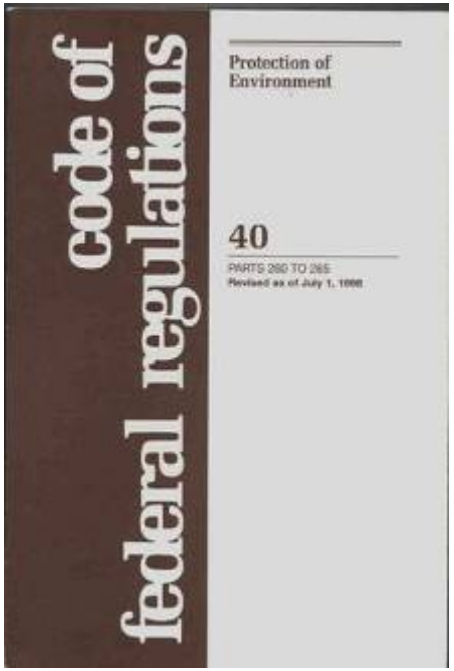
Fort Wainwright, Alaska
Environmental Officer Course
2011

Outline

I. Regulations
II. Liabilities
III. Responsibilities
IV. Definition of Hazardous Waste
V. Management
VI. Disposal
VII. Where to Obtain Assistance

Regulations

- U.S. EPA Resource Conservation and Recovery Act Regulations 40 CFR Parts 260-280
- Alaska Title 18 Chapter 62
- DoD
- AR 200-1
- USARAK 200-1



Criminal Liability

Criminal Penalties

- Up to 5 years in jail

Civil Penalties

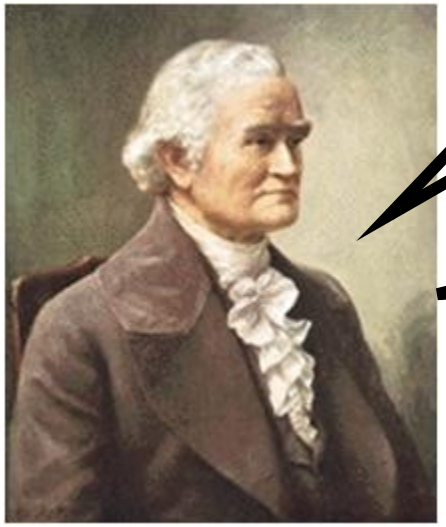
- Up to $37,500 per day per violation

Military/Federal Civilian Liability

- UCMJ for Military
- Title 18 USC for Civilians

Waste Defined

A solid waste is <u>any</u> discarded <u>material</u>



DISCARDED means abandoned recycled, inherently waste-like. CAN BE SOLID, SEMI-SOLID ~~LIQUID, or GAS~~ !!

Abandoned

- Disposed
- Burned or incinerated
  - Even when burned for energy recovery
- Accumulated, stored or treated in lieu of being abandoned

Reclamation

- MATERIALS no longer a waste unless:
  - Burned for energy recovery
  - Used in a manner constituting disposal
- Commercial chemical products are not solid waste if they are used beneficially as products.

Solid Waste Exclusions

- Commercial chemical products applied to the land as ordinary manner of use
  - Pesticides and herbicides placed on a golf course
- Commercial chemical products that are normal components of fuels and burned for energy recovery

Hazardous Waste Defined

To be a hazardous waste, a material first must be a solid waste.

HW Criteria

- The waste is a listed waste:
  - Generated during a process.
  - UNUSED commercial chemical products that are expired, off-specification, or discarded.
- Characteristic Wastes – Other wastes not specifically listed but meet certain criteria for the following:
  - Ignitability
  - Corrosivity
  - Reactivity
  - Toxicity

Process Wastes – F & K Lists

- F listed wastes are from <u>non-specific</u> sources
  - Methylene chloride used for degreasing (F001)
  - Methyl ethyl ketone used as a solvent (F005)
    - For example: to clean paint guns
- K listed wastes are from specific sources
  - Wastewaster treatment sludge from manufacturing explosives (K044)

Discarded Products P & U Lists

- Examples include off-specification or expired products, container residues and spill residues
  - P listed wastes are acutely hazardous
    - P095 - Phosgene
    - P098 - Potassium Cyanide
  - U-listed are toxic
    - U002 - Acetone
    - U154 - Methanol

How do we get P and U wastes?

Characteristic of Wastes

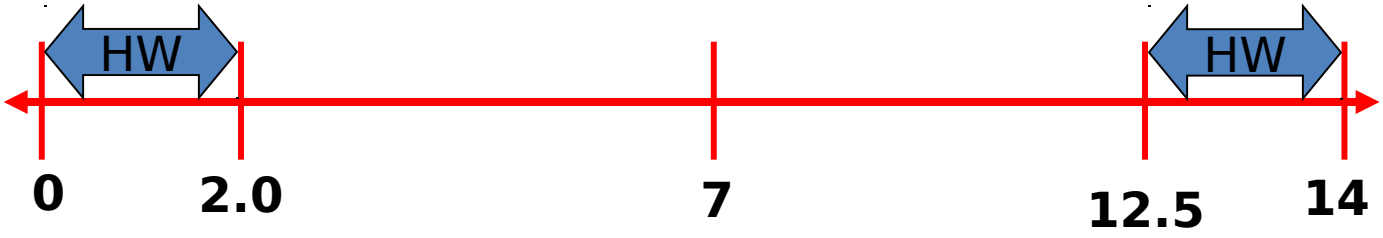
- Ignitability
- Corrosivity
- Reactivity
- Toxicity

Ignitability

- Liquid with flash point <140 °F
- Solid that ignites easily and burns vigorously
- Compressed flammable gas
- Oxidizer
- Coded as D001

Corrosivity

- Aqueous* solution with pH ≤2 or ≥12.5
  - *Test method requires at least 20% water



- Corrodes steel faster than 0.25” per year at 130° F
- Coded as D002

Reactivity

- Capable of detonation or explosion
- Reacts violently with water
- Forms toxic gases
- EPA HW Number: D003

Toxicity

- TCLP* results exceed regulatory levels in Table 1 of 40 CFR 261.24
- EPA HW Numbers: D004-D043

Toxicity Codes

TCLP Parameter	Regulatory Limit (Maximum)	EPA Hazardous Waste Number
Arsenic	5.0 mg/L	D004
Barium	100.0 mg/L	D005
Cadmium	1.0 mg/L	D006
Chromium	5.0 mg/L	D007
Lead	5.0 mg/L	D008
Mercury	0.2 mg/L	D009
Selenium	1.0 mg/L	D010
Silver	5.0 mg/L	D011
Benzene	0.5 mg/L	D018
Carbon Tetrachloride	0.5 mg/L	D019
Chlorobenzene	100.0 mg/L	D021
Chloroform	6.0 mg/L	D022
1,2-Dichloroethane	0.5 mg/L	D028
1,1-Dichloroethylene	0.7 mg/L	D029
Methyl Ethyl Ketone (MEK)	200.0 mg/L	D035
Tetrachloroethylene	0.7 mg/L	D039
Trichloroethylene	0.5 mg/L	D040
Vinyl Chloride	0.2 mg/L	D043

Common HW at Motorpools

- Used fuel filters
- Used solvents
- Rags used in maintenance activities
- Paint thinner
- Aerosol cans
- Flameless ration heaters
- Stryker belly sludge
- Spill residue

Common Wastes at Co. Areas

- NBC Waste
  - Used mask filter canisters
- Unit Supply
  - Used aerosol cans
- Commo
  - Rags used for cleaning equipment
  - Used batteries (Universal Waste)
- Arms Rooms
  - Cleaning materials contaminated with CLP
- Aid Stations
  - Expired pharmaceuticals (generally non-hazardous)
    - MEDCOM can get monetary credit for turning in unused meds

END

INSTALLATION MANAGEMENT COMMAND

IMCOM
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